

Inventors: Lucas et al.  
Serial Number 09/816148

PATENT APPLICATION  
Navy Case No. 79597

### **Amendments to the Specification**

Please replace the paragraph beginning on page 3 line 1 with the following rewritten paragraph:

B<sup>1</sup>  
The cathodic protection system for a tank typically consists of a number of sacrificial anodes, typically made of a strongly electro-negative metal such as a zinc or aluminum alloy. The sacrificial anodes are often referred to as "zincs". The sacrificial anodes are distributed through the tank and mechanically attached to the tank walls. Adequate cathodic protection is so beneficial, that in U.S. Navy ships, for example, the anode type and arrangement are defined by a Navy specification. By design, these sacrificial anodes are more "electro-negative" or "anodic" than the tank metal, commonly steel, thus creating a controlled corrosion cell where the sacrificial anode is consumed preferentially to the tank structure. Because the sacrificial anodes are selected to be more negative than most materials, they will also protect other metal components within the tank (e.g. piping, valves, cables). The the protection afforded the tank metal also helps minimize premature coatings failure.

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Please replace the paragraph beginning on page 12 line 1 with the following rewritten paragraph:

b2  
protect and thus respond by providing more current. The effectiveness of the sacrificial anodes in protecting the tank from the electrolyte, as the tank fills and stabilizes, may be estimated by the potential across the reference half-cells 2a and 2b. Increasing the number of reference half-cells will provide more refined data concerning the anode cathodic protection performance and tank condition, although two reference half-cells supply a significant amount of information. Analysis of the differential potential measured between the reference half-cells 2a and 2b, for example, may provide information about the direction of current flow, the potential distribution within the tank, the general location of surfaces requiring the greatest current demand and, therefore, indirectly, the location of the most significant coatings deterioration.